

REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action dated November 3, 2006, is respectfully requested in view of this amendment. By this amendment, a substitute Abstract is presented, claims 16 and 17 have been amended, and new claims 21-25 have been inserted. Claims 16, 17 and 21-25 are pending in the application and are presented for reconsideration and further examination in view of the foregoing amendments and the following remarks.

Claim 16 was amended to describe the plastic layer and housing wall forming a contiguous structure produced from the same material. The amendment to claim 17 and submission of claims 21-25 presents the claim elements formerly found in claim 17 separately. It is respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132.

In the outstanding Office Action, the abstract was objected to and claim 17 was rejected under 35 U.S.C. §112, second paragraph as indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 was rejected under 35 U.S.C. §102(e) as anticipated by *Skrzypchak*, (US 6,583,355), and claim 17 was under 35 U.S.C. 103(a) as being unpatentable over *Skrzypchak* in view of Choi, et al. (US 5,569,738, hereinafter *Choi*) and Scari, et al. (US 5,807,793, hereinafter *Scari*).

Rejections Under 35 U.S.C. §112

The Examiner rejected claim 17 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Accordingly, the limitations relating to alternative ranges have been presented in separate claims.

Rejections Under 35 U.S.C. §102

Claim 16 was rejected under 35 USC 102(b) as anticipated by *Skrzypchak*. *Skrzypchak* is cited as disclosing a plastic injected part with a PCV layer and another plastic layer. The contact runs through the plastic layer and projects from the plastic layer.

Response

This rejection is traversed as follows. As cited above, for a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The cited art shows the use of a PC board embedded in plastic, a set of external terminals and a housing with a sidewall. Applicant's revised claim 16 recites:

"... a plastic layer, which is applied to at least one side of the circuit board, wherein the contact element ... projects from this plastic layer to connect the mating contact, the plastic extends from the plastic layer outward and laterally as a pot shaped housing wall of a housing, the plastic layer and housing wall forming a contiguous structure, and ... produced from the same material."

The cited art fails to recite each and every feature of the claims. In particular, *Skrzypchak* fails to show a housing wall formed of the same material as the encapsulant and formed as a contiguous structure. In contrast, the *Skrzypchak* PC board is potted (30) within a separate housing (14). The *Skrzypchak* configuration is clearly set forth:

"... Encapsulant 30 in a fluid state is then poured into the case 14 to a predetermined level. In certain embodiments, it may be necessary to tilt the case 14 and enclosed components while introducing the encapsulant 30 in order to avoid the entrapment of air under the circuit board 12, thereby ensuring the complete encapsulation of all of the devices 16. ..." (*Skrzypchak* at col. 3, lines 27-34.)

In view of the foregoing, withdrawal of the rejection is respectfully requested.

Applicability of 35 USC §103

In connection with sensor housings exposed to liquids or vibrations, the ability to seal or embed the sensor in a plastic layer is significant. In the claimed configuration, this plastic layer extends outwardly as a pot shaped housing wall. If, for example, the device is used as a fluid level sensor in a pressurized system, a leakage of the fluid past the sensor connector assembly could result in ill effects such as migration of fluid along the electrical cabling and subsequent damage to remote electrical devices.

By providing a plastic layer which extends outwardly and laterally, it is possible to construct a connection interface which is sealed at the interface between the inner part of the housing and the PC board. This is set forth in claim 16:

"... a plastic layer, which is applied to at least one side of the circuit board, wherein ... the plastic extends from the plastic layer outward and laterally as a pot shaped housing wall of a housing ... forming a contiguous structure"

This configuration allows the use of a PC board, such as a flat PC board, in an environment which requires sealing or encapsulation. Thus the attachment of the terminals can be made to the PC board, which a plastic encapsulant material can be used to form a pot shaped housing wall. The arrangement is such that the terminals can be further sealed by the encapsulant or not, while still electrically connected to the PC board.

The use of a separate housing (case 14) in *Skrzypchak* specifically contradicts the provision of using the encapsulant as a pot shaped housing wall. In particular, the encapsulant in *Skrzypchak* is introduced in a manner which results the encapsulant not forming a pot shaped housing wall.

It is therefore submitted that the features described above in connection with the *Skrzypchak* reference "teaches away from" a basic feature of the invention as claimed. It would be unobvious to modify *Skrzypchak* to meet the claim limitations of the present invention.

Rejections Under 35 U.S.C. §103

The Examiner rejected claim 17 was under 35 U.S.C. 103(a) as being unpatentable over *Skrzypchak* in view of *Choi* and *Scari*.

Response

This rejection is traversed as follows. To establish a *prima facie* case of obviousness, the Examiner must establish: (1) some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would be obvious to modify the references to produce the present invention. *See Dystar Textilfarben GMBH v. C. H. Patrick*, 464 F.3d 1356 (Fed. Cir. 2006). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings. *Id.* at 1366.

Skrzypchak is used to show the use of a plastic layer applied to both sides of a PC board. *Choi* is used to show the use of a high melting temperature thermoplastic. There is no suggestion that *Choi* be used for sealing an electronic assembly. The description of electronics in *Choi* is instead limited to:

"... application to automobile, electrics, electronics, household electrical appliances, public transport such as airplane and fiber." (*Choi* at col. 4, lines 52-58.)

That falls short of providing any indication of the use of the material as an adaptation for a PC board to provide sealing functions. More significantly, *Choi* provides no suggestion of Applicant's use of,

"... a plastic layer ... applied to at least one side of the circuit board ... [extending] outward and laterally as a pot shaped housing wall of a housing ... forming a contiguous structure, and ... produced from the same material." (Claim 16.)

Scari is cited to show an interlaced resin system; however the basic structure of the plastic encapsulant to form a sealed housing as recited in the claims is completely absent from *Scari*, taken alone or in combination with *Skrzypchak* in view of *Choi*.

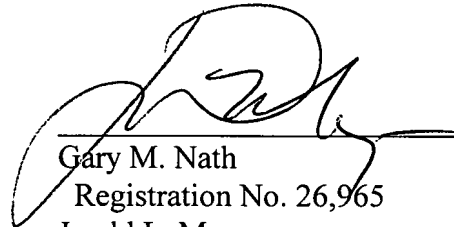
CONCLUSION

In view of the preceding election, the Applicants respectfully request the Examiner to conduct a first substantive examination of the application, and further prosecution of the application is respectfully requested. The Examiner is invited to call the undersigned if it is believed that it will expedite the prosecution of the application.

Respectfully submitted,
THE NATH LAW GROUP

May 2, 2007

THE NATH LAW GROUP
112 South West Street
Alexandria, VA 22314-2891
Tel: 703-548-6284
Fax: 703-683-8396



Gary M. Nath
Registration No. 26,965
Jerald L. Meyer
Registration No. 41,194
Stanley N. Protigal
Registration No. 28,657